



AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claim 1 (Currently Amended): A dielectric recording apparatus for recording data in a dielectric material, comprising:

a probe for recording the data in the dielectric material;

a record data voltage generation device for generating a voltage corresponding to the data;

a bias voltage generation device for generating a bias voltage which is applied to the dielectric material, a polarity of the bias voltage being determined based on a polarization direction corresponding to the data to be recorded; and

a voltage application device for combining the voltage corresponding to the data and the bias voltage and applying the combined voltage to the probe.

Claim 2 (Currently Amended): The dielectric recording apparatus according to claim 1, wherein the bias voltage is a direct current voltage which is equal to or smaller than a voltage corresponding to a coercive field of the dielectric material.

Claim 3 (Original): The dielectric recording apparatus according to claim 1, wherein the bias voltage generation device comprises a voltage-value setting device for changing and setting a value of the bias voltage.

Claim 4 (Original): The dielectric recording apparatus according to claim 1, wherein the bias voltage generation device comprises a reversing device for reversing polarity of the bias voltage.

Claim 5 (Original): The dielectric recording apparatus according to claim 1, wherein the dielectric material is a ferroelectric material.

Claim 6 (Currently Amended): A dielectric reproducing apparatus for reproducing data recorded in a dielectric material, comprising:

a probe for detecting a polarization state of the dielectric material corresponding to the data;

a data reproduction device for reproducing the data from the polarization state detected by the probe;

a bias voltage generation device for generating a direct current bias voltage which is applied to the dielectric material; and

a voltage application device for applying the bias voltage to the dielectric material.

Claim 7 (Currently Amended): The dielectric reproducing apparatus according to claim 6, wherein the bias voltage is a direct current voltage which is equal to or smaller than a voltage corresponding to a coercive electric field of the dielectric material.

Claim 8 (Original): The dielectric reproducing apparatus according to claim 6, wherein the bias voltage generation device comprises a voltage-value setting device for changing and setting a value of the bias voltage.

Claim 9 (Original): The dielectric reproducing apparatus according to claim 6, wherein the bias voltage generation device comprises a reversing device for reversing polarity of the bias voltage.

Claim 10 (Original): The dielectric reproducing apparatus according to claim 6, wherein the data reproduction device reproduces the data by detecting a capacitance of the dielectric material corresponding to the polarization state with the probe.

Claim 11 (Original): The dielectric reproducing apparatus according to claim 6, wherein the data reproduction device comprises:

an oscillator for generating an oscillation signal having a frequency that changes depending on a capacitance of the dielectric material corresponding to the polarization state detected by the probe; and

a frequency-amplitude converting device for performing a frequency-amplitude conversion on the oscillation signal.

Claim 12 (Original): The dielectric reproducing apparatus according to claim 6, wherein the dielectric material is a ferroelectric material.

Claim 13 (Currently Amended): A dielectric recording/reproducing apparatus for performing data recording and data reproducing by using a dielectric material as a recording medium, comprising:

a probe for recording data to be recorded in the dielectric material and for detecting a polarization state of the dielectric material corresponding to data recorded in the dielectric material;

a record data voltage generation device for generating a recording voltage corresponding to the data to be recorded;

a data reproduction device for reproducing the data recorded in the dielectric material on the basis of the polarization state detected by the probe;

a bias voltage generation device for generating a bias voltage which is applied to the dielectric material, the bias voltage being a direct current voltage in reproducing the data; and

a voltage application device for applying the bias voltage to the dielectric material.

Claim 14 (Original): The dielectric record / reproducing apparatus according to claim 13, further comprising a switching device for switching between a first line for sending the recording voltage from the record data voltage generation device to the dielectric material through the probe and a second line for sending the bias voltage from the voltage application device to the dielectric material.

Claim 15 (Original): The dielectric record / reproducing apparatus according to claim 13, further comprising:

a combining device for combining the recording voltage and the bias voltage; and

a switching device for switching between a first line for sending the recording voltage and the bias voltage from the combining device to the dielectric material through the probe and a second line sending the bias voltage from the voltage application device to the dielectric material.

Claim 16 (Currently Amended): The dielectric recording / reproducing apparatus according to claim 13, wherein the bias voltage is a direct current voltage which is equal

to or smaller than a voltage corresponding to a coercive electric field of the dielectric material.

Claim 17 (Original): The dielectric recording / reproducing apparatus according to claim 13, wherein said bias voltage generation device comprises a voltage-value setting device for changing and setting a value of the bias voltage.

Claim 18 (Original): The dielectric recording to / reproducing apparatus according to claim 13, wherein the bias voltage generation device comprises a reversing device for reversing polarity of the bias voltage.

Claim 19 (Original): The dielectric recording / reproducing apparatus according to claim 13, wherein the data reproduction device reproduces the data by detecting a capacitance of the dielectric material corresponding to the polarization state with the probe.

Claim 20 (Original): The dielectric recording / reproducing apparatus according to claim 13, wherein the data reproduction device comprises:

an oscillator for generating an oscillation signal having a frequency that changes depending on a capacitance of the dielectric material corresponding to the polarization state detected by the probe; and

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a frequency-amplitude converting device for performing a frequency-amplitude conversion on the oscillation signal.

Claim 21 (Original): The dielectric recording / reproducing apparatus according to claim 13, wherein the dielectric material is a ferroelectric material.